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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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PERSINO, RAYMOND B	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/975,179	Applicant(s) YARKOSKY, MARK	
	Examiner Raymond B. Persino	Art Unit 2682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 April 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 9-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 9-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-6, 9-16, 19, 20-23, 25, 27, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over JUDD et al (WO 01/52447 A2).

Regarding claim 1, JUDD et al discloses a propagation system for extending into an enclosure a wireless coverage area provided by a base station located outside of the enclosure, the propagation system comprising: an integrated propagation relay (elements 110, 11, 112 and 113 of figure 23a), the integrated propagation relay including at least one antenna (elements 110 and 113 of figure 23a) for transmitting to and receiving from the base station wireless signals in a first set of frequencies, and for transmitting into and receiving from inside of the enclosure wireless signals in a second set of frequencies, and a frequency converter (element 111 of figure 23a) for converting between the first set of frequencies and the second set of frequencies; and a first mobile station interface port (element 119 of figures 23a and 23b) located in the enclosure, the first mobile station interface port including at least one antenna (elements 119a and 119d of figure 23b) for transmitting and receiving wireless signals in the first set of frequencies and for transmitting and receiving directly with the integrated propagation

relay wireless signal in the second set of frequencies, the first mobile station interface port including a frequency converter (element 119c of figure 23b) for converting between the first set of frequencies and the second set of frequencies (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7). JUDD does not teach directly transmitting from the integrated propagation relay to the mobile station interface port. While JUDD does not explicitly teach this, it is obvious over JUDD. JUDD teaches that the same Ethernet frequencies that are transmitted via the integrated propagation relay to the repeaters are retransmitted by those repeaters to the mobile station interface port. Thus it would be clear to one of ordinary skill in the art that the mobile station interface port could communicate with any of the repeaters and even the integrated propagation relay because they all operate on the same frequency. Thus, if the mobile station interface port was in the radiative field of the integrated propagation relay it would operate in the same manner as if a repeater had been in the path. Thus it would have been obvious to a person of ordinary skill in the art at the time the invention was made that the he mobile station interface port could communicate directly with the integrated propagation relay. Motivation to do so comes from the fact that the repeaters have a cost associated with them, so not using a repeater when it isn't necessary saves money.

Regarding claim 2, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses that the integrated propagation relay includes a first antenna (element 110 of figure 23a) for transmitting and receiving wireless signals in the first set of frequencies and a second antenna

(element 113 of figure 23a) for transmitting and receiving wireless signals in the second set of frequencies (see page 17 lines 15-25).

Regarding claim 3, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses that the at least one mobile station interface port includes a first antenna (element 119d of figure 23b) for transmitting and receiving wireless signals in the first set of frequencies and a second antenna (element 119a of figure 23b) for transmitting and receiving wireless signals in the second set of frequencies (see page 17 lines 26 to page 18 line 7).

Regarding claim 4, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses a repeater (elements 114 and 115 of figure 23a) for receiving wireless signals from the integrated propagation relay in the second set of frequencies and for transmitting the wireless signals in the second set of frequencies to another repeater or to a mobile station interface port other than the first mobile station interface port (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7).

Regarding claim 5, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses a repeater (elements 114 and 115 of figure 23a) for receiving wireless signals in the second set of frequencies from another repeater or a mobile station interface port other than the first mobile station interface port and for transmitting the wireless signals in the second set of frequencies to the integrated propagation relay (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7).

Regarding claim 6, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses the mobile station interface port includes at least one antenna (elements 119a and 119d of figure 23b) for transmitting and receiving wireless signals in the first set of frequencies and in the second set of frequencies and further including a frequency converter (see element 119c of figure 23b) for converting between the first set of frequencies and the second set of frequencies. However, JUDD et al does not explicitly disclose that the at least one mobile station interface port includes a plurality of mobile station interface ports located in the enclosure. Nevertheless, JUDD et al does suggest using a plurality of mobile station interface ports located in an enclosure (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7). Specifically, JUDD et al teaches using two or more repeaters so as to provide coverage to RF null or "blank" areas within the building. While this is discussed in terms of Ethernet coverage the same logic would apply to PCS coverage. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have a plurality of mobile station interface ports located in the enclosure. Proving a plurality of mobile station interface ports located in the enclosure aids in providing coverage to RF null or "blank" areas within the building. In this way, the provider or customer can cheaply and easily install two or more mobile station interface ports to provide coverage to various areas of the building, such as where the RF signal level has low Signal to Noise (ratio), or where there is no signal at all.

Regarding claim 9, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses that each one of the plurality of mobile station interface ports (element 119 of figure 23a) is located in the enclosure, and wherein at least one of the plurality of mobile station interface ports transmits directly to the propagation relay and receives directly from the integrated propagation relay wireless signals in the second set of frequencies (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7).

Regarding claim 10, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses at least one mobile station, wherein the at least one mobile station is capable of communicating with at least one of the plurality of mobile station interface ports (element 119 of figure 23a) in the first set of frequencies (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7).

Regarding claim 11, JUDD et al discloses a propagation system for providing wireless communications between at least one mobile station located in an enclosure and a base station located outside of the enclosure, the base station transmitting wireless signals at a first downlink frequency and receiving wireless signals at a first uplink frequency, the mobile station transmitting wireless signals at the first uplink frequency and receiving wireless signals at the first downlink frequency, the propagation system comprising: at least one integrated propagation relay (elements 110, 11, 112 and 113 of figure 23a), the at least one integrated propagation relay transmitting within the enclosure at a second downlink frequency wireless signals received from the base

station at the first downlink frequency, the at least one integrated propagation relay transmitting to the base station at the first uplink frequency wireless signals received from inside of the enclosure at a second uplink frequency; at least one mobile station interface port (element 119 of figures 23a and 23b) located in the enclosure, the at least one mobile station interface port transmitting directly to the at least one integrated propagation relay at the second uplink frequency wireless signals received from the at least one mobile station at the first uplink frequency, the at least one mobile station interface port transmitting to the at least one mobile station at the first downlink frequency wireless signals received at the second downlink frequency (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7). JUDD does not teach directly transmitting from the integrated propagation relay to the mobile station interface port. While JUDD does not explicitly teach this, it is obvious over JUDD. JUDD teaches that the same Ethernet frequencies that are transmitted via the integrated propagation relay to the repeaters are retransmitted by those repeaters to the mobile station interface port. Thus it would be clear to one of ordinary skill in the art that the mobile station interface port could communicate with any of the repeaters and even the integrated propagation relay because they all operate on the same frequency. Thus, if the mobile station interface port was in the radiative field of the integrated propagation relay it would operate in the same manner as if a repeater had been in the path. Thus it would have been obvious to a person of ordinary skill in the art at the time the invention was made that the he mobile station interface port could communicate directly with the integrated propagation relay. Motivation to do so comes from the fact that the repeaters

have a cost associated with them, so not using a repeater when it isn't necessary saves money.

Regarding claim 12, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses that the at least one integrated propagation relay includes: a first antenna (element 110 of figure 23a) for transmitting to the base station wireless signals at the first uplink frequency and for receiving from the base station wireless signals at the first downlink frequency; and a second antenna (element 113 of figure 23a) for transmitting within the enclosure wireless signals at the second downlink frequency and for receiving from the enclosure wireless signals at the second uplink frequency (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7).

Regarding claim 13, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses that the at least one mobile station interface port includes: a first antenna (element 119d of figure 23b) for transmitting to the at least one mobile station wireless signals at the first downlink frequency and for receiving from the mobile station wireless signals at the first uplink frequency; and a second antenna (element 119a of figure 23b) for transmitting wireless signals at the second uplink frequency and for receiving wireless signals at the second downlink frequency (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7).

Regarding claim 14, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses that the first set of

frequencies is within the range of approximately 824 MHz to 1.910 GHz (see page 18 lines 16-18 and line 21).

Regarding claim 15, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses that the second set of frequencies is within the range of approximately 40.66 MHz to 2.5 GHz (see page 18 lines 16-18).

Regarding claim 16, see the rejection of the parent claim concerning the subject matter this claim depends from. However, JUDD et al does not explicitly disclose that the at least one mobile station interface port includes a plurality of mobile station interface ports located in the enclosure. Nevertheless, JUDD et al does suggest using a plurality of mobile station interface ports located in an enclosure (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7). Specifically, JUDD et al teaches using two or more repeaters so as to provide coverage to RF null or "blank" areas within the building. While this is discussed in terms of Ethernet coverage the same logic would apply to PCS coverage. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have a plurality of mobile station interface ports located in the enclosure. Proving a plurality of mobile station interface ports located in the enclosure aids in providing coverage to RF null or "blank" areas within the building. In this way, the provider or customer can cheaply and easily install two or more mobile station interface ports to provide coverage to various areas of the building, such as where the RF signal level has low Signal to Noise (ratio), or where there is no signal at all.

Regarding claim 19, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses that the mobile station interface port is located in the enclosure, and wherein at least one of the plurality of mobile station interface ports transmits directly to the at least one integrated propagation relay wireless signals at the second uplink frequency and receives directly from the at least one integrated propagation relay wireless signals at the second downlink frequency (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7).

Regarding claim 20, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses that the at least one integrated propagation relay includes a plurality of integrated propagation relays (elements110a-110c and 111a-111c of figure 23a), and where each one of the plurality of integrated propagation relays is capable of receiving from the base station at the first downlink frequency and sending to the base station at the first uplink frequency, and where each one of the plurality of integrated propagation relays is capable of sending to the at least one mobile station interface port at the second downlink frequency and receiving from the at least one mobile station interface port at the second uplink frequency (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7).

Regarding claim 21, JUDD et al discloses a method for providing wireless communications between a mobile station located in an enclosure and a base station located outside of the enclosure, the method comprising: receiving at an integrated propagation relay wireless signals at a first downlink frequency transmitted by the base

station; converting the wireless signals at the first downlink frequency into wireless signals at a second downlink frequency; transmitting directly to a mobile station interface port located within the enclosure the wireless signals at the second downlink frequency; receiving at the mobile station interface port the wireless signals at the second downlink frequency; converting the wireless signals at the second downlink frequency into recovered wireless signals at the first downlink frequency; and transmitting to the mobile station the recovered wireless signals at the first downlink frequency (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7). JUDD does not teach directly transmitting from the integrated propagation relay to the mobile station interface port. While JUDD does not explicitly teach this, it is obvious over JUDD. JUDD teaches that the same Ethernet frequencies that are transmitted via the integrated propagation relay to the repeaters are retransmitted by those repeaters to the mobile station interface port. Thus it would be clear to one of ordinary skill in the art that the mobile station interface port could communicate with any of the repeaters and even the integrated propagation relay because they all operate on the same frequency. Thus, if the mobile station interface port was in the radiative field of the integrated propagation relay it would operate in the same manner as if a repeater had been in the path. Thus it would have been obvious to a person of ordinary skill in the art at the time the invention was made that the he mobile station interface port could communicate directly with the integrated propagation relay. Motivation to do so comes from the fact that the repeaters have a cost associated with them, so not using a repeater when it isn't necessary saves money.

Regarding claim 22, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses receiving at the mobile station interface port wireless signals at a first uplink frequency transmitted by the mobile station; converting the wireless signals at the first uplink frequency into wireless signals at a second uplink frequency; transmitting directly to the integrated propagation relay the wireless signals at the second uplink frequency; receiving at the integrated propagation relay the wireless signals at the second uplink frequency; converting the wireless signals at the second uplink frequency into recovered wireless signals at the first uplink frequency; and transmitting to the base station the recovered wireless signals at the first uplink frequency (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7).

Regarding claim 23, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses that the step of receiving wireless signals at a first downlink frequency is done using a first antenna (element 110 of figure 23a), and wherein the step of transmitting into the enclosure is done using a second antenna (element 113 of figure 23a) (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7).

Regarding claim 25, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses that the step of receiving the wireless signals at the second downlink frequency is done using a first antenna (element 119a of figure 23b), and wherein the step of transmitting to the mobile station

is done using a second antenna (element 119d of figure 23b) (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7).

Regarding claim 27, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses that the step of receiving wireless signals at a first uplink frequency is done using a first antenna (element 119b of figure 23b), and wherein the step of transmitting the wireless signals at the second uplink frequency is done using a second antenna (element 119a of figure 23b) (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7).

Regarding claim 29, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses that the step of receiving the wireless signals at the second uplink frequency is done using a first antenna (element 113 of figure 23a), and wherein the step of transmitting to the base station is done using a second antenna (element 110 of figure 23a) (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7).

3. Claims 17, 18, 24, 26, 28, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over JUDD et al (WO 01/52447 A2) in view of an examiner's official notice.

Regarding claim 17, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses that the first mobile station interface port is capable of sending to a repeater at the second downlink frequency and where the repeater is capable of receiving from the first mobile station interface port at the second downlink frequency (see figures 22, 23a and 23b as well as page 17 line 7

to page 18 line 7). However, JUDD et al does not discloses that the repeater is a second mobile station interface port. Nevertheless the examiner takes official notice that it was known in the art at the time the invention was made for the functions of a repeater and mobile station interface port to be combined. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made for the repeater to be also be a second mobile station interface port. The integration of the repeater and mobile station interface port functions would save space and reduce cost by allowing for the two functions of share common elements.

Regarding claim 18, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses that the first mobile station interface port is capable of sending to a repeater at the second uplink frequency and where the repeater is capable of receiving from the first mobile station interface port at the second uplink frequency (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7). However, JUDD et al does not discloses that the repeater is a second mobile station interface port. Nevertheless the examiner takes official notice that it was known in the art at the time the invention was made for the functions of a repeater and mobile station interface port to be combined. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made for the repeater to be also be a second mobile station interface port. The integration of the repeater and mobile station interface port functions would save space and reduce cost by allowing for the two functions of share common elements.

Regarding claim 24, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses that the step of receiving wireless signals at a first downlink frequency is done using a first antenna, and wherein the step of transmitting into the enclosure is done using the second antenna (element 113 of figure 23a). However, JUDD et al does not discloses that the first and second antenna are the same antenna. Nevertheless the examiner takes official notice that it was known in the art at the time the invention was made to use a common antenna for both transmission and reception. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a common antenna for both transmission and reception. The use of a use a common antenna for both transmission and reception would save space and reduce cost by allowing for the two functions of share a common element.

Regarding claim 26, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses that the step of receiving the wireless signals at the second downlink frequency is done using a first antenna (element 119a of figure 23b), and wherein the step of transmitting to the mobile station is done using a second antenna (element 119d of figure 23b). However, JUDD et al does not discloses that the first and second antenna are the same antenna. Nevertheless the examiner takes official notice that it was known in the art at the time the invention was made to use a common antenna for both transmission and reception. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a common antenna for both transmission and reception.

The use of a use a common antenna for both transmission and reception would save space and reduce cost by allowing for the two functions of share a common element.

Regarding claim 28, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses that the step of receiving wireless signals at a first uplink frequency is done using a first antenna (element 119b of figure 23b), and wherein the step of transmitting the wireless signals at the second uplink frequency is done using a second antenna (element 119a of figure 23b) (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7). However, JUDD et al does not discloses that the first and second antenna are the same antenna. Nevertheless the examiner takes official notice that it was known in the art at the time the invention was made to use a common antenna for both transmission and reception. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a common antenna for both transmission and reception. The use of a use a common antenna for both transmission and reception would save space and reduce cost by allowing for the two functions of share a common element.

Regarding claim 30, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses that the step of receiving the wireless signals at the second uplink frequency is done using a first antenna (element 113 of figure 23a), and wherein the step of transmitting to the base station is done using a second antenna (element 110 of figure 23a) (see figures 22, 23a and 23b as well as page 17 line 7 to page 18 line 7). However, JUDD et al does not discloses that the first and second antenna are the same antenna. Nevertheless the examiner

takes official notice that it was known in the art at the time the invention was made to use a common antenna for both transmission and reception. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a common antenna for both transmission and reception. The use of a use a common antenna for both transmission and reception would save space and reduce cost by allowing for the two functions of share a common element.

Regarding claim 31, see the rejection of the parent claim concerning the subject matter this claim depends from. JUDD et al further discloses repeater (Ethernet –to – PCS modules) for receiving wireless signals in the second set of frequencies, for converting the wireless signals in the second set of frequencies to wireless signals in a third set of frequencies. However, JUDD et al does not disclose transmitting the wireless signals in the third set of frequencies to another repeater or to a mobile station interface port other than the first mobile station interface port. Thus what is not taught by JUDD et al is that signals from Ethernet –to –PCS are repeated. What the examiner is taking official notice is that it is well known to a wireless signal from any type of device to be repeated. For example 455/7-25 of the US classification system deal with the repeating of wireless signals. Thus, since it is known for to a wireless signal from any type of device to be repeated, it is obvious that the signals from the Ethernet –to –PCS modules be repeated. Repeating a wireless signal is advantageous in that it extends the range of communication.

4. Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over JUDD et al (WO 01/52447 A2) in view of EKVETCHAVIT et al (US 2002/0159551 A1).

Regarding claim 32 and 33, see the rejection of the parent claim concerning the subject matter this claim depends from. However, JUDD et al does not disclose that a filtering subsystem for filtering wireless signals in the first set of wireless frequencies or for filtering wireless signals in the second set of frequencies to improve a carrier to interference ratio. EKVETCHAVIT et al discloses use of a filter that for filtering wireless signals to improve a carrier to interference ratio (paragraphs 18 and 56). Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a filter to improve a carrier to interference ratio. Motivation to implement this is that by improving the carrier to interference ratio the devices would be better able to operate in an interfering environment.

5. Claims 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over JUDD et al (WO 01/52447 A2) in view of an examiner's official notice as evidenced by SCHMUTZ (US 6,718,160 B2).

Regarding claim 34 and 35, see the rejection of the parent claim concerning the subject matter this claim depends from. However, JUDD et al does not disclose a frequency negotiation subsystem for negotiating to determine which frequencies in a set of frequencies provide approximately a best reception. Nevertheless, the examiner takes official notice that it is known in the art to use frequency negotiation for negotiating to determine which frequencies in a set of frequencies provide approximately a best

reception. Moreover, SCHMUTZ discloses automatic configuration of frequencies in a repeater (abstract). Therefore it would have been obvious to a person or ordinary skill in the art at the time the invention was made to use frequency negotiation for negotiating to determine which frequencies in a set of frequencies provide approximately a best reception. Motivation to implement this is that the highest quality frequency is used. This enables the devices to better operate in an interfering environment.

Response to Arguments

6. Applicant's arguments filed 4/23/2004 have been fully considered but they are not persuasive.

Regarding claims 1, 11 and 21, the applicant argues that JUDD does not teach of an integrated propagation relay but instead teaches of separate components. While JUDD does identify separate elements for different parts of the propagation relay, those separate elements are connected and thus are integrated. Since they are connected, they are integrated, regardless of the form of the combined elements. The examiner believes that the applicant is indirectly arguing the form of the integrated propagation relay. However, it is noted that claims 1, 11 and 21 do not limit the form of the integrated propagation relay. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Moreover, the applicant argues that JUDD does not teach directly transmitting from the integrated propagation relay to the mobile station interface port. While JUDD does not explicitly teach this, it is obvious over JUDD. JUDD teaches that the same Ethernet frequencies that are transmitted via the integrated propagation relay to the repeaters are retransmitted by those repeaters to the mobile station interface port. Thus it would be clear to one of ordinary skill in the art that the mobile station interface port could communicate with any of the repeaters and even the integrated propagation relay because they all operate on the same frequency. Thus, if the mobile station interface port was in the radiative field of the integrated propagation relay it would operate in the same manner as if a repeater had been in the path. Thus it would have been obvious to a person of ordinary skill in the art at the time the invention was made that the he mobile station interface port could communicate directly with the integrated propagation relay. Motivation to do so comes from the fact that the repeaters have a cost associated with them, so not using a repeater when it isn't necessary saves money.

Regarding claims 17 and 18, the applicant argues that that what the examiner took official notice on is not known. The examiner will attempt of clarify his position. The examiner is not suggesting that Ethernet –to –PCS modules are well known, however that function is taught by JUDD. What is not taught by JUDD is that signals from Ethernet –to –PCS are repeated. What the examiner is taking official notice is that it is well known to a wireless signal from any type of device to be repeated. For example 455/7-25 of the US classification system deal with the repeating of wireless signals.

Thus, since it is known for to a wireless signal from any type of device to be repeated, it is obvious that the signals from the Ethernet –to –PCS modules be repeated.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond B. Persino whose telephone number is (703) 308-7528. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on (703) 308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Raymond B. Persino RP
Examiner
Art Unit 2682

RP

VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600
7/12/04